

**What is claimed is:**

1. A CDMA baseband receiver comprising:  
a first correlating unit which calculates first correlation values from a spread modulation signal and a short code which is common to base stations;  
5 a long code phase candidate outputting section which outputs selected long code phase candidates corresponding to ones selected from said first correlation values, based on said spread modulation signal, and determined long codes, said selected long  
10 code phase candidates being other than long code phase candidates for known ones of said base stations; and  
a long code determining section which generates said determined long codes for unknown ones of said base stations from said spread modulation signal, said  
15 short code, and long codes generated based on said selected long code phase candidates, each long code being peculiar to one base station.
2. The CDMA baseband receiver according to claim 1, wherein said correlation values corresponding to said selected long code phase candidates are larger than a first predetermined threshold value.
3. The CDMA baseband receiver according to claim 1, wherein said long code phase candidate outputting section further outputs correlation peak phases

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5 predetermined number of second correlation values for  
said known base stations.

4. The CDMA baseband receiver according to claim 1,  
wherein said long code phase candidate outputting  
section includes:

a maximum correlation peak phase detecting unit  
5 which detects and holding as long code phase  
candidates, peak phases corresponding to said first  
correlation values for a second predetermined number  
from a maximum one of said first correlation values  
and higher than a second predetermined threshold  
10 value;

spreading code generating units which generate spreading codes from said short code and said determined long codes, respectively;

delay profile generating units which generate  
15 delay profiles for said known base stations based on  
said generated spreading codes, respectively; and

a phase detecting unit which removes long code phase candidates corresponding to peak phases for said generated delay profiles from said held long code phase candidates, and outputs the remaining long code phase candidates as said selected long code phase candidates to said long code determining section.

5. The CDMA baseband receiver according to claim 1, wherein said long code phase candidate outputting section includes:

a peak phase storage memory;

5 spreading code generating units which generate spreading codes from said short code and said determined long codes, respectively;

10 delay profile generating units which generate delay profiles for said known base stations based on said generated spreading codes, respectively;

15 a phase detecting unit which detects ones higher than a third predetermined threshold value from among third correlation values calculated from said generated delay profiles and stores peak phases corresponding to said detected third correlation value in said peak phase storage memory; and

20 a maximum correlation peak phase detecting unit which compares a second predetermined threshold value and each of said first correlation values, detects peak phases corresponding to ones for a second predetermined number from a maximum one of said first correlation values larger than said second predetermined threshold value, compares each of said detected peak phases and said stored peak phases in  
25 said peak phase storage memory to remove said stored peak phases from said detected peak phases, and outputs remaining peak phases as said selected long

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6. The CDMA baseband receiver according to claim 5, wherein said long code phase candidate outputting section further includes:

5 peak phases for said known base stations.

section includes:

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5  said first correlation values;
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determined long codes, respectively;

10 delay profiles for said known base stations based on  
said generated spreading codes, respectively;

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15 generated delay profiles;
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correlation values and sets ones corresponding to said

stored peak phases of said first correlation values  
20 stored in said correlation value storage memory to  
lower values than a second predetermined threshold  
value; and

a maximum correlation peak phase detecting unit  
which compares said second predetermined threshold  
25 value and each of said first correlation values stored  
in said correlation value storage memory, and outputs  
peak phases corresponding to ones for a second  
predetermined number from a maximum one of said first  
correlation values larger than said second  
30 predetermined threshold value as said selected long  
code phase candidates to said long code determining  
section.

8. The CDMA baseband receiver according to claim 7,  
wherein said long code phase candidate outputting  
section further includes:

a path detecting unit which outputs said stored  
5 peak phases for said known base stations.

~~9.~~ A method of determining long codes for unknown  
base stations in a CDMA baseband receiver, comprising:  
calculating first correlation values from a  
spread modulation signal and a short code which is  
5 common to base stations;

outputting selected long code phase candidates

corresponding to ones selected from said first correlation values, based on said spread modulation signal, and determined long codes, said selected long  
10 code phase candidates being other than long code phase candidates for known ones of said base stations; and

determining long codes for said unknown base stations from said spread modulation signal, said short code, and long codes generated based on said  
15 selected long code phase candidates, each long code is peculiar to one base station.

10. The method according to claim 9, wherein said correlation values corresponding to said selected long code phase candidates are larger than a first predetermined threshold value.

11. The method according to claim 9, wherein said outputting further includes:

outputting correlation peak phases corresponding to selected ones for a first  
5 predetermined number of second correlation values for said known base stations.

12. The method according to claim 9, wherein said outputting includes:

detecting and holding as long code phase candidates, peak phases corresponding to said first

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detecting ones higher than a third  
predetermined threshold value from among third  
10 correlation values calculated from said generated





and said determined long codes, respectively;

generating delay profiles for said known base stations based on said generated spreading codes, respectively;

10 detecting ones higher than a third predetermined threshold value from among third correlation values calculated from said generated delay profiles;

storing peak phases corresponding to said  
15 detected third correlation values;

setting ones corresponding to said stored peak phases of said first correlation values stored in said correlation value storage memory to lower values than a second predetermined threshold value;

20 comparing said second predetermined threshold value and each of said first correlation values stored in said correlation value storage memory; and

outputting peak phases corresponding to ones for a second predetermined number from a maximum one  
25 of said first correlation values larger than said second predetermined threshold value as said selected long code phase candidates to said long code determining section.

16. The method according to claim 15, wherein said outputting further includes:

outputting said stored peak phases for said

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known base stations.

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